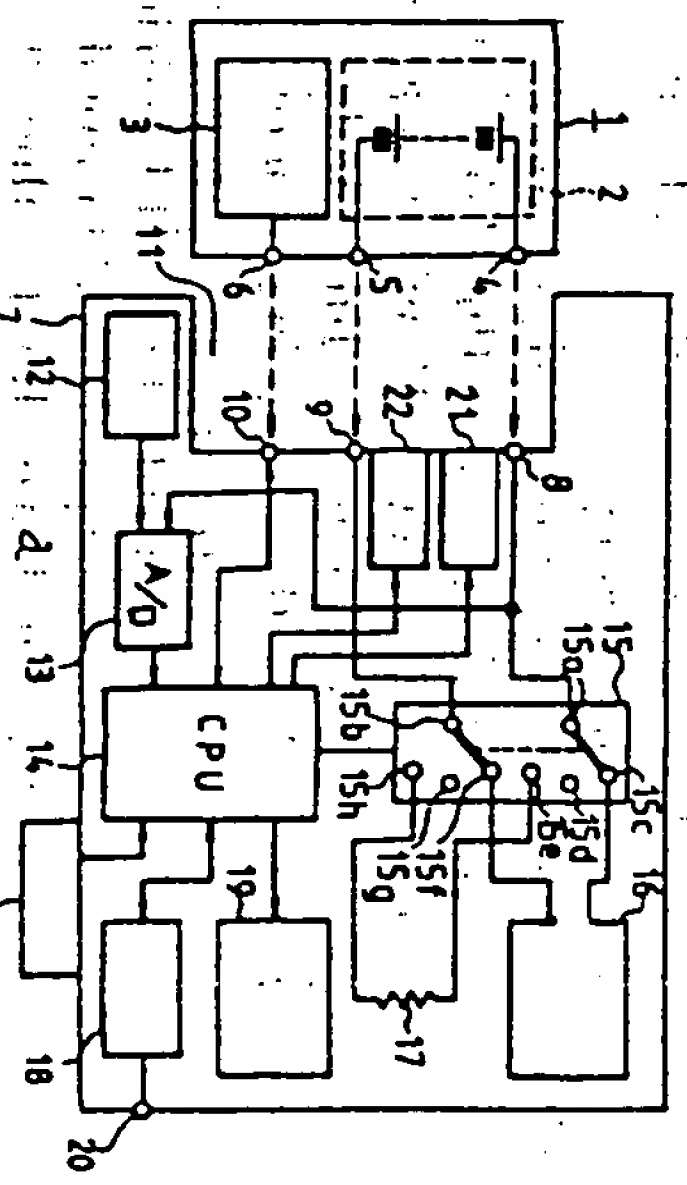


- (54) BATTERY APPARATUS EQUIPPED WITH NON-VOLATILE MEMORY
- (11) 1-59179 (A) (43) 6.3.1989 (19) JP
- (21) Appl. No. 62-217548 (22) 31.8.1987
- (71) SONY CORP (72) SHIGERU MORIKAWA
- (51) Int. Cl<sup>4</sup>. G01R31/36

PURPOSE: To accurately determine the capacity and residual quantity of a battery and to facilitate the control thereof, by providing a non-volatile memory on the side of the battery and providing an automatic measuring means composed of a CPU on the side of an apparatus having a housing space.

CONSTITUTION: A battery pack 1 having a non-volatile memory 3 is received in a housing space 11. When a CPU 14 is selectively set to a discharge characteristic measuring mode, a rated load 17 is connected to a battery 2 to collect terminal voltage data. When voltage reaches a predetermined level and the measurement of a discharge characteristic is finished, the capacity of the battery is calculated to be displayed, and the measured and capacity data are stored in the memory 3. When the CPU 14 is set to a residual quantity measuring mode, the load 17 is connected to the battery 2 for a short time to take in terminal voltage and the data of the memory 3 is compared with the measured data to judge the total use time and a residual time is calculated to be displayed. By this method, the capacity and residual quantity of the battery can be accurately determined and the control of the battery is made easy.



12: temp. sensor, 16: charge circuit, 18: interface, 19: display part, 21: heater, 22: cooler, 23: switch group, a: one embodiment

- (54) FLUX TRANSMITTING WIRE
- (11) 1-59180 (A) (43) 6.3.1989 (19) JP
- (21) Appl. No. 62-218118 (22) 31.8.1987
- (71) SHIMADZU CORP (72) HIDEFUMI SAITO
- (51) Int. Cl<sup>4</sup>. G01R33/02

PURPOSE: To reduce the effect of an acting part on objective magnetic flux and to miniaturize an apparatus, by forming a wire material having high magnetic permeability from a superconductive material and utilizing minus effect due to a superconductive phenomenon to confine magnetic flux in the wire.